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To undertake a comprehensive study and review of educational programs at Stanford University, President Sterling in 1967 appointed the Steering Committee for the Study of Education at Stanford. This report, the first of a series of 10 to be issued by the Committee, discusses the background, premises, and purposes of the study. Later reports will deal with more specific programs and areas within the university. The premises for the study deal with the ideal roles of the university in its relationship to society and in nurturing the educational processes. The most important aspect of the educational role should be to give the student freedom to direct his academic life. On the basis of these premises and the reality of the present situation at Stanford, recommendations will be made. The first and most important recommendation is that the university should seek to "sustain a spirit" of self-examination and self-renewal, and that these endeavors should be physically supported by an Academic Planning Office and a standing committee of the Academic Senate. A more detailed proposal for the Academic Planning Office, a discussion of university goals, and findings from preliminary research are included in the appendices. Copies of this report, or the set of 10, are available from Study of Education at Stanford, Stanford University, Stanford, California 94305. [Not available in hard copy due to marginal legibility of original document.] (DS)

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s Purposes

The Study of Education
at Stanford

Report to the
University

HE 001 135

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Chancellor J. E. Wallace Sterling
Acting President Robert J. Glaser
President-Designate Kenneth S. Pitzer

Gentlemen:

The members of the Steering Committee of the Study of Education at Stanford have the honor to submit to you, and to the entire Stanford community, the first of a series of reports embodying the Study's recommendations for strengthening the academic enterprise at Stanford. These *Reports to the University* will appear at intervals throughout the autumn quarter and will include recommendations covering the range of topics to which the Study has addressed itself. Following is a list of these reports:

I. *The Study and Its Purposes*
II. *Undergraduate Education*
III. *University Residences and Campus Life*
IV. *Undergraduate Admissions and Financial Aid*
V. *Advising and Counseling*
VI. *The Extra-Curriculum*
VII. *Graduate Education*
VIII. *Teaching, Research, and the Faculty*
IX. *International Education*
X. *Government of the University*

We hope that the publication of these reports will stimulate discussion and, on occasion, controversy in all parts of the University. The moment of transition symbolized by the joint address of this communication seems an especially propitious one for the University community to address itself to the issues raised by these reports.

One of the most satisfying results of the Study has been that, as the impetus for reform has made itself felt, desirable changes have been undertaken before formal recommendations could be made. Thus the early work of SES's Committee on Residence Policies led to the extensive alterations in the pattern of living arrangements that went into effect in 1967–68. The Academic Council voted to authorize a limited number of interdepartmental majors, designed by individual students, an innovation recommended in an early position paper published by the Study. The Admissions Committee's proposals on minority students have already been made operative by changes in admissions policy for the present freshman class. An associate provost to oversee and coordinate computer problems on the campus was appointed as a direct result of the work of the Committee on Computer Problems. These are a few examples of the substance of the recommendations already adopted. The Steering Committee would be just as gratified if the principal recommendations of the Study were put into effect by the independent action of affected University agencies as if they were achieved through formal adoption of SES recommendations.

The composition of the Steering Committee has not changed over the life of the Study, although some of our number have had to absent themselves for varying lengths of time. None of us would wish to be held personally accountable for every word of every recommendation or, indeed, to be thought in agreement with every recommendation. We have done our work through a process of discussion and consensus, with a virtual absence of formal vote-taking. Our reports are communal documents, but we have tried to keep them from being lowest common denominators. The price that each of us willingly pays for that is a residuum of disagreement about style of presentation and details of content. On the general thrust of our recommendations we are, for the most part, unanimous.

We have not attempted to specify the addressees of our recommendations. The constitutional law of the University is not that highly developed. Some of our recommendations will have to be acted upon by the Academic Council or its Senate. Others will call for action by student organizations. Still others can be put into effect by the President. Some few are addressed solely to the Board of Trustees, although all in some ultimate legal sense will require their

ratification. We suspect that the constitutional law of the University will become more highly developed over the coming months as questions of what to decide become intertwined with questions about jurisdiction to decide. The results of that deliberative and decision-making activity may at times be somewhat chaotic, but they cannot fail in the end to be healthy.

It would be impossible to record all the contributions that members of the Stanford community have made to SES. This has been truly a communal enterprise. Measured only in terms of committee service, the figures are impressive. Over 200 faculty members, staff members, and students served on the Steering Committee, the various topic committees, subcommittees of the topic committees, and other working groups.[1]

The Steering Committee has met regularly over the course of the Study, and as often as three times a week. We have concerned ourselves with the structure and content of undergraduate education at Stanford, with general questions about graduate education, with a variety of special problems, and with coordination of topic committee recommendations. The aggregate contribution of the various topic committees has been most impressive. The reports of these committees, some of which are not yet in hand, will aggregate several thousand pages. An important function of the Steering Committee has been to select from this vast body of information and recommendations a manageable quantity of material to lay before the Stanford community.

At a time when financial pressures are painfully acute, it would be irresponsible for us to advocate programs, however attractive, that require vast new outlays. We are not doing so. In fact, most of our curricular recommendations either cost nothing or call for a reordering of priorities rather than incremental expenditures. Nonetheless, we think that the Stanford community is entitled to know in what general range of cost each of our principal recommendations will fall. We have been working with the Controller's Office to chart the *terra incognita* of academic program budgeting. The results of that effort will be presented at the conclusion of the Study.

[1] Among other quantitative and tangible evidences of our work are these: We have received over 200 letters and memoranda from faculty and staff, 140 from students, and 30 from alumni, either in response to requests or on their own initiative. The staff has produced some 70 background papers, statistical studies, and attitude surveys. Among their major projects have been surveys of the graduating class of 1968 and of alumni of earlier years, analyses of the complete transcripts of 400 students who graduated last year so that actual class and course experience could be analyzed, and a simulation of the pool of applicants for the freshman class that entered in 1967 so organized that the effect of various hypothetical admissions policies on class characteristics could be determined. Visits were made to the campuses of 19 leading colleges and universities and data on their organization, programs, and curricula compiled.

Immediately following this letter we express our thanks to some of the people who have helped with SES. At this point we want to pay special tribute to one of the recipients of this transmittal letter, Chancellor J. E. Wallace Sterling. It was he, as President, who conceived this study. He not only facilitated our work through the prestige of his office and his person, but encouraged us to be bold in our thinking and planning. If the results of this study have merit, they should take their place among the many benefits that Dr. Sterling has conferred upon this institution.

We want to close this message on a note that is repeated in the first of the Study's recommendations and that is implied in everything we have to say. A university, above all other social institutions, should engage in a continuing process of self-examination and self-renewal. To a surprising extent universities have failed to do so. On as mundane a level as the routine collection of information about what goes on in the University, we have found astonishing gaps. But the problem cuts far deeper than that. The faculty and administration of this University, on whom the burden must chiefly fall, have not evolved adequate mechanisms and processes to make self-examination and self-renewal an integral part of our institutional life. In the first of our reports to the University we advance several recommendations to that end. The Study of Education at Stanford will have failed in its central purpose if it is viewed simply as a two-year exercise in institutional introspection resulting in proposals for change, some of which get accepted and some of which do not. It is far less important to the success of SES that its batting average be high (although we hope it will be) than that its spirit of self-examination be translated into permanent institutional reality. The study of education at Stanford must become a process rather than merely an event.

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November 1968

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The Library staff for assistance in many research chores, and especially to the J. Henry Meyer Library staff for graciously permitting us to occupy portions of the building for office and conference space.

While we cannot express our thanks to each of the people who have contributed to this undertaking, we do want to record our keen sense of indebtedness to the devoted and energetic members of the SES staff, most of them students working part-time for the Study, without whose help the job could not have been done:

Nancy Avery
Priscilla Schumaker Bale
Richard Bale
Jean Biddle
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Philip Taubman
Jacqueline Towner

We are especially grateful to four emeritus professors, Paul Farnsworth, Harold Fisher, Anthony Sokol, and Harry Williams, who conducted interviews with a sample of 120 faculty members. The information they gathered on faculty views and attitudes has proved invaluable in our deliberations. To the many others whose contribution has meant much, our warmest gratitude.

The Study & Its Purposes

The problems of society, for a time obscured by economic prosperity and the quest for personal achievement, have assumed in this decade a new dimension. Whether in New York, Paris, Berkeley, or here at Stanford, the relatively affluent students at our great universities, those to whom society promises the greatest prestige, political power, and material comfort, have gone into opposition. And a focal point of their disaffection is the university itself, the principal institution that conserves, creates, and transmits the values and substance of our cultural tradition. This disaffection has been directed toward the rigidity of academic procedures, the notion of education as an imposed process, the idea that universities are not so much the servants of society as of the existing social order. It is often said that educational institutions have somehow lost track of their *raison d'etre*: education. It has become a commonplace that students and faculty alike are caught up in endless numbers of requirements and punchcards, outward signs of inward indifference. Whether this criticism is largely wrong, exaggerated, or substantially correct, it is there, and members of the university have not been at all reticent about expressing their views and their grievances.

We on the Steering Committee of the Study of Education at Stanford have found ourselves, then, in a particularly responsible position. We have been assigned the task of studying an institution of higher education that shares with a very few other universities in this nation the fame and, more important, the challenge of excellence. Along with our regular duties we have

attempted in less than two years to learn as much as possible about Stanford University, to identify those areas in which it is less than equal to its role, and to recommend some steps toward the solution of its problems.

The crisis of our time has been very much in our minds. Its effect on our work cannot be judged with any precision, but one thing should be made clear at the outset. We have been led to deeper probing and deeper concern by the many voices raised in criticism of higher education in America and at Stanford. They have led us to ask certain questions and have helped us to learn of certain problems. For answers or solutions we have turned to many sources and considered many views. We can hold only ourselves responsible for our conclusions. We have tried to exercise objectivity and detachment in finding answers to our questions; we have tried to base our proposed responses to the problems of education at Stanford on careful consideration of the meaning of education for individual teacher and student and of the nature of the university. We have tried to avoid the facile response, whether on the side of those who would cling to an inadequate present because they fear an uncertain future, or on the side of those who would change for the sake of change, with little thought to reason and none to consequence.

Our months of work have been for us an educational experience of the highest order. We have tried to understand something of what it means to teach and to learn, to preserve that which deserves preservation, and to recommend changes in the University that will contribute to its success in its primary task: the intellectual and humane development of men and women. Here and in the following reports we present the history of our efforts, the conclusions at which we have arrived, and the premises on which our conclusions have been based.

Inception & Organization

In several public statements during 1965 and 1966, President Sterling suggested the need for a fresh review of educational programs at Stanford. Nearly ten years had elapsed since the completion of a study of undergraduate education that culminated in the establishment of the General Studies program and was reported in *The Undergraduate in the University* by

Hoopes and Marshall.[2] In this decade the character of the University's faculty and student body had changed markedly. The amount of knowledge, if knowledge can ever be measured quantitatively, continued to increase at an unprecedented rate; new academic disciplines were created and old ones drastically changed in their methods and objectives. But most importantly, perhaps, many faculty members and students began to suggest the existence of deficiencies in the educational programs offered by the University. The times appeared to demand reexamination of the nature of education and of universities, self-appraisal, and change.

After several months of preliminary planning, the Study began its work with the appointment of the Steering Committee by President Sterling during the winter quarter of 1967. We published first a preliminary agenda of some 250 questions, to which we have sought answers in the succeeding months. From the outset we have tried to involve all interested and informed members of the community as our primary resource for information and opinions about the University. Our questionnaires, interviews, surveys, and other data-collecting devices have probably reached a majority of the faculty and student body at one time or another during the past year and a half. We have received and welcomed a great deal of criticism of and concern with the work of the Study. We have relied heavily upon the work of topic committees, made up of students and members of the faculty and administrative staff, which have dealt with particular areas of concern, with University residences, advising, admissions, and so forth. But because the University is a whole and its problems are interrelated, we have tried to maintain an overview of the topic committees' work. We on the Steering Committee have ourselves dealt with the central area of concern: the academic programs of the University. Our recommendations, whether based on the work of the topic committees or on our own work, will be presented in detail in succeeding reports, together with the information and the reasoning that have led us to make them. Here we wish to discuss what has been, in many ways, the most important part of our task, the clarification of basic premises.

[2] Robert Hoopes and Hubert Marshall, *The Undergraduate in the University*, Stanford University Press, 1957.

Education & the University

To establish our basic premises we must begin with our conceptions of education and of a university. The word "education" comes from the Latin verb *educere* meaning "to lead forth." To lead does not mean to compel, or to push, or to pull. It means quite simply what it says. Education is a continuous process of discovery, beginning with a man's first day and ending only when his mind closes in on itself and can find or conceive nothing new. It includes both a systematic training of the intellect and the enlightenment and perceptions that come through experience. If man existed always in solitude, he would learn only that which his own perceptions would allow. But there are other men with whom he shares his world, from whom he may learn of things and of thoughts beyond his experience. From them he may learn how to order his perceptions and how to go about his own discoveries. Education, motivated by curiosity and the will to learn, is based on communication between teacher and taught, whether between an author and reader, a teacher and student, or a student and his fellows.

Three things seem to follow. First, education cannot be limited by hours or years; it cannot be confined to time spent in the classroom. Secondly, education must be the concern of the student himself, self-willed and in large measure self-directed. It can never be compelled nor can knowledge be impressed on a mind unwilling to learn, if it is to be more than indoctrination. This leads us to our third point: every student offers a new and untried hope that our imperfect world may be changed, that our understanding of ourselves and our environment may be increased by whatever imagination and creativity he can bring to his endeavors.

The sphere within which the University can further education is limited. Even for the brief interval of formal matriculation it cannot be the sole educational influence in the lives of its students. But it can offer to teachers and students an inimitable and exhilarating chance to come together, to learn from one another, to discuss freely and openly problems of intellectual difficulty, to seek solutions with whatever intellectual tools they can acquire or contrive. The University can never educate in the true sense of the word, but it can supply the environment and the means necessary to insure that those who have come here may educate each other and themselves. The University's justification, in Whitehead's words, is to preserve "the connection between knowledge and the zest of life, by uniting the young and the old in the imaginative consideration of learning."

In his Founder's Day Address in March 1968, Professor Edwin Good defined the university as the place to learn to think freely and to think well: think freely, because no important question has one final answer; think well, for we need a certain discipline of mind, the habit of thinking before speaking, of investigating before concluding, of discovering how one solves a problem before proposing an answer to it. The University, as an educational community, must renew its dedication to these mutually dependent purposes. Again we borrow, this time more directly, from Professor Good: "I have not been able to ascertain the source of a remark that I believe is a profound one: 'I do not care a fig for the simplicity that lies on this side of complexity; but I would put my life at the service of the simplicity that lies on the other side of complexity.' That, I suggest, is the long-range goal of the enterprise in which we are all engaged." We agree.

The University & Society

The university's relationship to society is closely intertwined with its ability to fulfill these purposes. Some assert that the university should be the indentured servant of the social order as they see it. Others think that the university as an educational institution should commit itself to promoting social change. Neither of these views can be accepted if the university is to maintain for its members the capacity to think freely and well.

We prefer to think of the university as a kind of unbound servant. The university does, indeed, serve society: it preserves our common intellectual and cultural tradition and transmits it to future generations; it is the ground for the creation of new values, new knowledge, and a new culture. In short, it is the agent of both preservation and change, both necessary to a vital society. But the university can serve society best only when its members are left free to pursue the scholarly interests that are vital to them. They cannot be expected to pursue that which is convenient or comfortable to the present social order, or, on the other hand, to plunge themselves into the newly fashionable.

There has been a great deal of criticism in recent years directed at the supposed irrelevance of much that the university teaches. The notion that the university must be directly useful to society has made its effect strongly felt in the imbalance between government support of the sciences and the

humanities. At the same time, there are those who claim that universities have ignored the pressing social and economic difficulties of our time, isolating themselves in academic obscurity without thinking of the world outside, offering their students little knowledge and no opportunity to effect change.

These charges must be answered on two levels, both of which are implied in our arguments concerning the nature of education and universities. First, we believe that those who criticize the university for its alleged irrelevance sometimes employ a limited and mistaken conception of what is "useful." For the right individual the study of literature, for example, can give aesthetic pleasure, political insight, and moral judgment that, for him, nothing else can. The same thing may be said for any of the humanistic disciplines or, for that matter, the social and natural sciences. Secondly, the university cannot hope to encompass every sphere of activity in which education may occur. We freely acknowledge that students can learn quite as much from their involvement in outside activity as they do in the classroom. But we do not believe that such activities necessarily belong in the curriculum. It is a mistake, we believe, to expect the university to accept primary responsibility for satisfying the demand for "relevance" and "experience." Rather such activities should arise from the intellectual and social ambience which the university fosters.

Premises & Realities

These premises underlie our work during the past months and our recommendations to the University. We have attempted to relate the reality of the present situation to our notions of what the University should be and should do if it is to fulfill its mission. Education, we have said, may take place as well outside as inside the classroom. Therefore, we are recommending changes in the University's residence programs that will help the residences become effective contributors to the students' educational experience, and not merely pleasant places in which to live.

The University is a community of students who are eager to learn, who are able to exercise the independence and to acquire the discipline necessary to attain new knowledge. We are therefore recommending changes in the structure of undergraduate education to insure that our students will have the freedom necessary to cultivate self-discipline.

We have said that the University's primary purpose is to further education. We are therefore recommending certain changes in the University's government that it may better facilitate the University's educational purposes.

We can make no claim that our recommended changes could be judiciously applied to every institution of higher education in America. Stanford has its own particular problems and demands. The University has brought together a faculty and student body of remarkable quality, and we trust that it will continue to do so. We cannot expect nor should we hope that these teachers and students will follow without protest anyone's preconceived pattern of progression toward the "educated man."

Education at Stanford demands great freedom of choice and independent decision. This demand is less a mark of rebellion than a mark of success. A prescriptive academic program is founded on pretensions of eternal truth that we do not share. We hope that the students who come here have enough curiosity and independence of mind to suspect any "eternal" truths, any "infallible" methods, any "indispensable" knowledge.

This freedom to choose what knowledge and what disciplines to learn may be Stanford's greatest gift to the student. For to choose he must think about himself and about the world in which he is involved. And this process of thought may contribute more to the student's educational development than any number of required University courses. His education is not imposed; it is his own.

A New Kind of General Education

Stanford is faced with two demands that at first seem diametrically opposed. Our faculty must be in the places where knowledge is advanced, and with this comes the need in our day to specialize intensively so that the frontiers of knowledge can be reached. This demand derives, we believe, not from the so-called "publish-or-perish" rule of academic success, but from a complex set of motivations to travel the path of discovery. For the most part it is because faculty members are interested in the unknown or the misunderstood that they have come to the University in the first place. The intense specialization that results from this characteristic of the faculty seems to militate against the demand for "general education" in the traditional sense, with its stress on a common body of knowledge and its concomitant insistence upon a highly

prescriptive curriculum. "General education" courses turn out to be an unwelcome chore for both faculty members and students in a setting where teaching or learning something prescribed by a committee is rightly looked on as the bottom of the academic barrel.

At the graduate level, at least as presently conceived, this is not so much a problem. Graduate students are attempting to reach a high degree of proficiency in the methodology and knowledge that they will use throughout their careers; they are themselves trying to reach the frontiers of knowledge. But for undergraduates the case is quite different and, we believe, the present compromise between the demands includes the weakest elements in each. Junior faculty members, who are very much involved in specialized research work, are often given the unenviable task of teaching undergraduate survey courses in which neither they nor their students may happen to be interested. Senior faculty members, who have the maturity and perspective to deal with the broad issues that underlie every form of specialized knowledge, rarely exploit that capacity for students outside their own fields.

We suggest that the demands of specialism and generalism are not irreconcilable. Within almost every specialist there lurks a generalist who can be coaxed to emerge. What it takes to coax him, however, is precisely what the traditional academic curriculum denies him: the opportunity to help a beginner comprehend, not his field as a whole, but those aspects of his field about which he cares most deeply. Let the objective of curricular planning be to encourage the faculty member to teach what he likes to teach and the student to learn what seems vital to him—the Intellectual History of Europe in the Nineteenth Century rather than the History of Western Civilization, Modern Conciousness rather than Freshman English, Organizational Behavior rather than Introduction to Sociology—and from this common freedom may emerge a form of general education far better suited to the characteristics of a university than that to which we pay lip service now.

The University cannot in any event impress on its students the total content of present knowledge, and it is impossible to choose what exactly it is that every student should know without imposing arbitrary constraints on the range of free inquiry. Instead, we believe that the important thing is for students to learn to find out what they do not know and then learn how to find out about it: to think freely and to think well. And the generalities can proceed from the specific, for the teacher at his best is concerned with the range as well as the depth of his discipline. We have developed this concept in greater detail in our report, *Undergraduate Education*.

The Independent Undergraduate

The undergraduate years should be a time apart, in which the student can reflect on his values and interests, guided by his own intellectual goals. At the same time the undergraduate years may involve for the student some degree of preparation for graduate school or for a more immediate career. In our attempt to resolve these somewhat antithetical goals we have been guided by the belief that, among other things, the undergraduate curriculum should lead the student to independence in his work. This independence will lead not only to personal involvement in subject matter, but to knowledge and to variety of intellectual experiences as well.

Can the student effectively exercise this sort of independence? Does he have the necessary knowledge of himself and of his goals to make this sort of decision? Our imperfect answer is that no one can have a deeper perception than the student himself, and that we had better give him the freedom and the means to exercise it. This does not mean that the University should blithely let the student "do his own thing," and then react with indifference when he falters or fails. Instead the University should offer the student every means of assistance it can to help him make his decisions: its wisdom and advice, but not its compulsion. The University should also help the student to discover new interests, lead him to analyze his old objectives, and to explore the many fields and endeavors open to him. He should be able to learn above all how one goes about acquiring knowledge. The freedom that we seek to promote includes the freedom from the crippling constraints of easy self-indulgence, a freedom that comes only when standards of excellence are recognized and emulated.

The Beginning of Self-Study

We hope, finally, that from our work will come a renewal of the idealism and aspiration on which universities are founded. They are not only places where the achievements of the past are preserved and transmitted to future generations. They are also places where change may be conceived, knowledge gained, and understanding increased, where a new culture may be created and the best in the old renewed. They are not only places where the individual

can learn to explore what is beyond his own experience. They are also places where, through the free and disciplined thought of individuals, our general understanding of man may be increased, his world improved and made more humane.

This leads us to what we must consider the ultimate purpose of our endeavor, the idea toward which our study has been directed. For the university, of all human institutions, "the unexamined life is not worth living." Yet universities, including Stanford, have been anomalously deficient in continuous institutional introspection. Instead we see a convulsive once-a-decade effort, followed by a lapse into accustomed ways.

The first and most important recommendation that we have to make to the University is this one:

1. The University should seek to sustain a spirit of self-examination and self-renewal, which can be supported by a variety of institutional devices including:

a. A standing committee of the Senate, with student membership, to concern itself solely with identifying institutional problems and seeing to it that they receive attention. The first task of this committee should be to monitor the progress of SES recommendations.

b. An Academic Planning Office to assist faculty, student, and administration efforts to obtain the data upon which rational planning must depend.

A recommendation that we "sustain a spirit" is shaky indeed without some institutional underpinnings. Those we advance are exemplary rather than exhaustive.

The Academic Senate should be a powerful instrument for promoting self-examination and self-renewal. Each of its committees, upon which students as well as faculty members are eligible to serve, will have that function in its own area of concern, whether it be admissions, the curriculum, research policy, residence programs, or whatever. But experience teaches us that committees charged with overseeing current operations can give only sporadic attention to long-run issues. We therefore see a need for a standing committee of the Academic Senate whose sole function it is to identify problems of academic policy that need attention and to see that they receive attention either from some regularly constituted agency of the University or from a specially constituted study group. Its first function should be to monitor the

progress of SES recommendations, so that the Stanford community may know where each recommendation stands. This committee should be able to call upon the services of a small staff, which we designate as the Academic Planning Office, for information, follow-up, and evaluation. The committee's membership should include faculty members who are interested in educational innovation, such as the Fellows of the University appointed under the Ford Foundation grant just announced. It should include the Dean of Undergraduate Studies or his functional equivalent.[3] Finally, it is essential that it include students with similar interests.

In summary, we propose a nexus of agencies functionally complementing each other in sustaining a continued drive for institutional innovation at Stanford. The Academic Planning Office, which is described in some detail in Appendix 5, provides the data and the research capacity upon which rational change must depend. The Senate committee (which we immodestly suggest might be called simply the SES Committee) provides the mechanism for expressing faculty and student concern with the innovative process. Working together they provide the symbols for constructive change and the means for continuing to bring it about.

[3]Many of the functions of the proposed dean are described in our Report II, *Undergraduate Education*. Description of the relationship of this position to the administrative structure of the University is analyzed in our Report X, *Government of the University*.

Appendix 1

Excerpts from Departmental Reports on Educational Programs

The Study of Education at Stanford grew out of the work of a planning committee established and chaired by President Sterling. Early in its deliberations in the autumn of 1966, the committee concluded that it should obtain the views of the schools and departments on educational programs and problems. Accordingly, the following letter was sent to academic departments; similar letters went to the deans of the schools:

[Dear Sir:]

As was reported at the last meeting of the Academic Council, I have, on the advice of the Advisory Board and the Executive Committee, appointed a special committee to join me in planning a major and thorough study of Stanford's educational programs and objectives. The emphasis of this effort will be on the undergraduate program, but within the context of the total University. In early discussions of the Planning Committee, there has emerged a conclusion that the proposed Study will require a staff and an executive committee, and possibly later on, a larger advisory committee. In the meantime, the Planning Committee has agreed that we should begin to solicit ideas, comments, observations and proposals from the various constituencies of the University. The Committee has further concluded that it particularly needs the views of the academic departments. Therefore, I write to invite your department to submit its views to the Planning Committee.

The Planning Committee will appreciate your ideas on the following topics, as well as on any others relevant to our objectives:

1. Your evaluation of the present undergraduate program in your department, its strengths and its weaknesses; in particular, your evaluation of the effectiveness of the department's undergraduate program in relation to preparation for graduate study in your field, and in relation to the needs of the undergraduate student who does not plan to do graduate work in your field.

2. Your estimation of what will be required in manpower and supporting resources, such as libraries, to further strengthen the strong elements and to correct weaknesses. At this point the Committee is not concerned with dollar amounts needed, but with substantive requirements.

3. Your projection of new directions in your field that will require new or at least different types of instructional programs and supporting resources.

4. Your estimates of the possibility of developing new interdisciplinary undergraduate programs that may involve cooperation between your department and others. For example, it has been suggested that Stanford may not be doing what it should in such areas as Environmental Studies, Urban Problems, or Problems of Developing Countries, which would require the cooperative efforts of two or more departments of the University. What would be required to implement such programs as you think desirable and productive?

5. Your ideas as to the best ways to involve able and thoughtful students, both undergraduates and graduates, in curriculum review and development, as well as in actual instruction and research.

6. Your ideas on the improvement of instructional physical facilities, particularly in the light of new ideas for curriculum development.

The Planning Committee would also appreciate information on undergraduate and graduate enrollment trends, what happens to your majors after graduation, and other statistical data relevant to your department and its interests. We would also be interested in your views about the undergraduate program in general as well as about your own department.

You may wish to undertake this paper yourself, appoint another individual, or designate a small committee to prepare this paper. The Planning Committee would like to have your paper not later than January 1, 1967, and sooner if possible.

If you have any questions, please call Vice Provost Howard Brooks, who is serving as Secretary to the Planning Committee.

The Planning Committee believes it to be advantageous to solicit views from students. If you would like assistance in organizing a student committee (as has already been done in several departments), Mr. David Harris, the ASSU President and a member of the Planning Committee, will be pleased to help.

Your assistance and cooperation will be greatly appreciated by all of us concerned in this effort. Many thanks.

Sincerely yours,

November 8, 1966

J. E. Wallace Sterling

The responses to this letter constituted the first input to SES. Following are selected excerpts from these responses, chosen to provide a representative sampling of department views. The authors are identified beside the department names.

Humanities and Science Departments

Classics, L. I. C. Pearson, John Moore, and Ronald Mellor – 12/19/66

Criticism of the freshman program now in force is being made in various quarters, and it is necessary to make it clear how this particular department could be helped by changes in it. It is most important to us that students who have some interest in classical studies have the opportunity of testing and developing their interest at the earliest opportunity. This is true of all branches of study, but we have to think not only of students who enter Stanford with a good preparation in Latin and Greek, who are likely to continue their studies if given some encouragement, but also of those who developed an interest in classical studies only towards the end of their high school career (who may be quite well prepared in a modern language, which gives them some advantage) or who develop this interest in the course of their freshman year. All such students can be very easily discouraged from indulging their

interest by what appear to be an inescapable quantity of required courses in other subjects or by advisers who are not prepared to help a student discover a way of arranging things (as good advisers will). At present the "Normal Program," including Western Civilization, English, and a natural science, discourages all but the most adventurous from coming to our department for advice or putting the case strongly to an adviser. As many faculty members know, potentially good students are often found doing poor work and showing little interest in it until they escape from the forest of General Studies regulations.

Computer Science, John G. Herriot, G. E. Forsythe, W. F. Miller – 2/1/67

We believe that a very strong case can be made for the appointment of a Vice-Provost for Computing Activities. Included in his area of responsibilities would be (1) the Computer Science Department, (2) the Computation Center, and (3) the Computer Science Research Institutes. The latter institutes are not yet in existence, but they are likely to come into existence in the next few years. They already exist in substance although not in form in Professor McCarthy and Professor Feigenbaum's Artificial Intelligence Project, Professor Miller's Graphic Study Groups (SLAC), and Professor Suppes' Teaching Machine Project. A number of individual institutes all under one Vice-Provost would provide for individuality and, simultaneously, coordination and optimal use of resources.

Economics, Edward S. Shaw – 2/6/67

Any university may choose between three policies toward peripatetic economists. It may hold leaves to a minimum, and the result is that it attracts economists of inferior quality. It may take a laissez-faire position, and then the danger is that it will have a major masthead department and a minor department in residence. Somewhere between these extremes is an optimal policy. Stanford's present policy is nearly optimal, but it seems inevitable that some relaxation will be necessary.

There are ways to put the economist's mobility to the service of the University. The Department of Economics is experimenting with this alternative. For example, one member of the Department is on two-thirds appointment. He spends the remainder of the year in Paris and is organizing a research institute there that would collaborate with a comparable institute here, offering opportunities for exchange of teaching and cooperation in research. In another case, a continuing interchange is being planned for Stanford and the University of Montevideo. The University's foreign campuses are another device for combining mobility of staff with stability of program.

Joint appointments within the University are another solution. They provide a variety of interest at home base for the economist, and they increase the community of economists at Stanford. One necessary condition for their success is that they reflect a common standard of professional quality. Another necessary condition is political: it is that joint appointments should not overwhelm any one department with part-time members whose primary loyalties are to other departments. . . .

The Department wishes to participate in University-wide teaching experiments such as freshman seminars. It cannot now afford to do so. The seminars appear to be useful from the standpoint of general education. They may serve another purpose, of finding students who seem to have the interest and talent for graduate work in Economics. On the basis of a carefully planned start in their freshman year, undergraduates may be brought along by the close of their senior year to the level now reached by second-year graduate students. No increase would be necessary in the number of undergraduate units given over to courses in Economics. The potential advantage for graduate instruction in Economics is evident.

At the graduate level, the Department would wish to offer additional sections of basic graduate classes. These classes now have as many as 50 students, approximately one-half from Economics and one-half from other University programs. We would wish also to hold a small number of very superior graduates for one year of research after completion of the doctorate. Such a year of post-doctoral

research is not relevant for the mass of graduate students, but it can provide the superior student with critical impetus in the beginning of his research career.

English, John W. Dodds – 1/24/67

One final word about the undergraduate program in general at Stanford. For a variety of reasons, which are tactical in the present climate of student opinion but which are at the same time of deeper significance in the perspective of total education, I believe it is of the utmost importance that Stanford continue to support and extend–by action as well as by the generous high-level words which have been spoken–one particular kind of curricular planning. One of our major jobs, as I see it, is to prevent or at least retard the progressive infection of *impersonality* which almost by definition attends the growth in size of a University. Much has been done here in recent years: the establishment of freshman seminars, tutorial programs–as in Philosophy, honors programs, both in departments and cross-departmentally. Where these are weak they should be strengthened. But the measure of growth in this direction will be proportionate to the *substantive support* for programs which attempt to humanize and individualize undergraduate education. I should much rather see Stanford lead in such creativity than respond, as it were reluctantly and after the fact, to situations which might thrust it, crisis-fashion, into a delayed and embarrassed recognition of its responsibilities. If this costs money, it is money that must be had. To me, this kind of academic statesmanship is much more important than any periodic reconsideration of "requirements" or tinkering with the peripheries of curricula.

Psychology, Albert H. Hastorf – 1/26/67

Let me now say a preliminary word or two based on conversations with the study committee. This past year we have tried an experiment in introductory psychology where we substituted an every other week one-to-one tutorial for the usual section meetings. The experiment was overwhelmingly successful (we have student evaluation data). It is quite clear that the committee will strongly recommend an increase in this teaching activity with both regular faculty and teaching assistants participating. We know this is going to cost money. Our experiment this year was underwritten partly by the Department and partly by the Committee on Undergraduate Education. During the past few years, we have instituted a program of undergraduate seminars, and it is clear that this successful innovation should be expanded. The committee is also taking a careful look at our honors program with the notion that it should be expanded. The great majority of the present participants go on to do graduate work in psychology. Consideration is being given to independent work programs for other students.

Sociology, W. Richard Scott, Bernard P. Cohen, John W. Meyer – 2/27/67

The Department of Sociology believes that the excessive concern for grades on the part of undergraduates is detrimental to both learning and intellectual development. Insofar as this over-concern for grades is due to university practices, we believe that several things can be done to reduce it. We are not so radical as to recommend the complete abolition of grading at Stanford. However, we do recommend: (1) That the recently instituted pass-fail grading, a worthwhile development, be extended at departmental discretion to courses within the major. (2) That grade point averages no longer be computed. The grade point average is misleading, involving the addition of apples and oranges, and in comparing things which are incommensurable fosters an instrumentality and concern for getting grades rather than getting an education. (3) That many irrelevant uses of grades be eliminated, such as the use of grades in the selection for overseas campuses, the use of grades in admission to honors programs.

The second area of undergraduate education in which the department expresses grave concern is that of undergraduate admissions where much can be done to obtain a more diversified undergraduate

body. We recommend that the Academic Council develop admissions criteria for undergraduates that will select potential excellence and creativity. We believe that the present admissions criteria tend to select students on the basis of their conformity to high school norms, rather than more relevant academic criteria. We would hope that a serious study aimed at revising undergraduate admissions criteria will be undertaken in the near future.

The department is also concerned with expanding student-faculty interaction. To this end, we recommend that the Freshman Seminar Program be expanded, that the program not rely on faculty volunteers for staffing, that teaching a freshman seminar not be regarded as a free service to be performed by the faculty but rather that freshman seminars be counted as part of the teaching load and that they be considered a regular part of departmental undergraduate offerings. To the end of promoting student-faculty interaction we also recommend that a *centrally located* coffeehouse on a permanent basis be established.

The Department of Sociology is committed to the ideals of a residence university. We believe, however, that much needs to be done to improve the quality of living groups on this campus. (1) We recommend that more diversified types of living arrangements on campus be made available to undergraduates. (2) That some of these living groups be coeducational. (3) That the discrimination in favor of fraternity men with respect to physical facilities be ended and that physically comparable facilities be provided for non-fraternity men and women. (4) That the artificial separation between academic pursuits and residential life be eliminated. While we do not intend that every moment of the undergraduate's life should be occupied in intellectual pursuit, the present situation may be described as one in which many students close their minds as well as their books when they leave the classroom or library, and thus lose a vital part of the college experience, namely the opportunity to learn from their peers as well as from the faculty.

Finally, we are gravely concerned by the restrictions placed on undergraduate education by the rigidity of the calendar. We believe that the present calendar foists an undue pressure on the undergraduates. The never-ending cycle of deadlines for papers, mid-quarter exams, and finals requires that the student always be "doing" and never allows him time to reflect on what he has done. Although we are not unanimous on this point, a considerable majority of the members of this department favor the abolition of the quarter system and the institution of some other calendar that includes a reading period.

Departmental program for General Studies students and non-majors: The introductory course as presently organized appears to serve the needs of the students quite well. However, an increased number of teaching assistants is needed for this course, as well as other courses with large enrollments. There should be enough teaching assistants so that discussion sections of only three to five students can meet for one hour each week. This would make possible real discussion among the students and would permit them to participate much more actively in the course.

The Department would like to develop a few courses dealing with more concrete and applied problem areas in sociology, which could capitalize on the natural interests of undergraduate students. We see no reason why such courses cannot be taught at the same level of technical sophistication as the more theoretically oriented courses. . . .

As a follow-up to the fundamental program courses and the advanced courses given in each of these areas, we believe that it would be highly desirable to institute a series of seminars for majors focused around some specific area or problem. . . .

The comments of students have also led us to believe that our program of individual study and research should be made available to a higher proportion of undergraduate majors. As the program presently operates, with few exceptions, only honors students have access to personal supervision of research and study. This is one place where we believe that graduate students serving as teaching assistants can play a very significant role in the teaching program. It is our belief that both graduate

and undergraduate students would benefit from close association in tutorial arrangements focused around a problem of interest to both. . . .

With the renewed interest shown at all levels of the University in undergraduate education, we believe that it would be worthwhile to consider the creation of a new departmental position: Director of Undergraduate Education. Among the functions which are now imperfectly performed or completely neglected which might be centered in this office are:

1. The training of teaching assistants. The program described in this report has made frequent reference to the greater utilization of qualified graduate students in the teaching program of this department. If graduate students are to measure up to these new responsibilities, it is clear that they must be given more training and support than they at present receive.

2. The matching of undergraduate and graduate student interests in the study and research tutorials described above.

3. Counseling of undergraduate students with respect to such matters as: choice of graduate schools, orientation to the profession, occupational decisions, and information pertaining to summer and school year work and fellowship opportunities.

4. Overseeing the total undergraduate program. Noting the number and sequence of courses as these affect undergraduate students. Calling occasional evaluative sessions with students and listening to individual student grievances, etc.

In short, we perceive here an important set of functions, which are at present largely neglected. However, given the present demands on existing staff, it is not at all clear whether the opportunity can be seized unless some one of us is partially relieved of some of his present teaching and research obligations.

Professional Schools

Civil Engineering, Ray K. Linsley – 12/12/66

In evaluating the undergraduate program in Civil Engineering, it should be noted that roughly 1/6 of the total program is specified by the General Studies requirements of the University, roughly 1/2 of the total program represents courses required by the School of Engineering, and about 1/3 of the program is controlled by the Department of Civil Engineering. As a result, we are presently requiring our students to take between 184 and 188 units of course work for the B.S. degree, of which only 13 units are free electives. Some larger latitude for the student in choice of courses would unquestionably be an improvement in the program. I have no clear suggestion as to how this might be accomplished. Such recent changes as have been made in the curriculum have, in general, reduced the amount of professional civil engineering content. But even the words "professional civil engineering content" are somewhat ambiguous: of the 47 units of course work now specified by the Department, 7 units are in courses outside of the Department and 9 are in courses which might be described as engineering science rather than civil engineering. Thus, only about 31 units of strictly professional civil engineering courses are in the curriculum. It is difficult to see how this small number of professional engineering courses could be further reduced. If it were, it would probably be well to abandon the idea that there is any element of professional training in the undergraduate program and rely on a graduate profes-

sional school to provide the entire training. Such an approach would be a disservice to those students who do not go on to graduate work. Admittedly, the number of such students is relatively small under present conditions.

Alternatively, greater latitude might be allowed the student in the areas of general studies and engineering core requirements. Without reducing the total units allocated to these two areas, some increased flexibility in choice of specific courses might be decidedly beneficial both from the viewpoint of student interest in the subject matter and in recognizing that civil engineering graduates of Stanford follow relatively diverse paths after they leave the campus. More choice would, of course, force the student to make some decision regarding his career at an earlier point in his academic life. Flexibility would, however, allow the student who intends to go on to graduate work in a technical field to take an approximately heavier load of math, science, and related subjects, while the student whose goal is engineering administration, public works planning and related fields might emphasize humanistic social courses.

Earth Sciences, Richard H. Jahns – 2/2/67

Substantial numbers of students here evidently develop, at some stage of their undergraduate careers, real interest and enthusiasm for learning, thinking, and creating, but the percentage of such "charged-up" individuals should be higher. We seemingly don't do as well on this score as some other institutions (e.g., perhaps, Carleton, Dartmouth, Pomona, Reed), and I suspect that more than mere differences in size might be involved.

Stanford appears to place more than average emphasis on thinking rather than on assimilating "facts," which is good, good, good! I do hope that this impression is correct, but admittedly it is based upon a limited (and indirect) personal knowledge of the University's undergraduate programs. . . .

Too many of the students in this School cannot express themselves as effectively as they should, either orally or in writing. They need more training and supervised practice in organizing their thoughts and transmitting them to others. We can (and shall) accomplish a part of this within our own programs, but we are not qualified to do it all; here we need help from the School of Humanities and Sciences if we are to turn out better-prepared scientists and engineers.

Too many of our students, intellectually able though they might be, are not potentially well-rounded citizens when they leave the School. They need more exposure to stimulating courses outside strictly technical fields, and they should be permitted more flexibility in establishing meaningful contacts with such fields at both undergraduate and graduate levels. . . .

In most universities the undergraduate student is encouraged, even urged in numerous subtle ways, to commit himself at a very early stage to some specific field of study. Is this in the best interests of the typical undergraduate, especially the typical Stanford undergraduate? I don't think so, but what more can we do to "open things up" a bit more, to provide the freshman and sophomore with a more ready and effective sampling of what Stanford has to offer, and to permit the advanced student greater latitude in course selection after he has elected a major? Implicit here is a need for improved contacts among the schools, and for better assisting the student in making wise choices. Even the best of conventional advising systems cannot fully accomplish this. What the undergraduate also needs is early communication with interested and sympathetic faculty members who can help him scan the future through the framework of *all* curricula in the University. Admittedly this is a big order, but we should try harder to fill it because much is at stake. . . .

Most training in the earth sciences, per se, is inherently interdisciplinary, as it necessarily draws from such other fields as mathematics, physics, chemistry, engineering, and the humanities. During recent years we have been welcoming graduate students with principal background training in business administration, economics, education, engineering, applied physics, and other fields outside the earth sciences, and we would accept more of these able people if they sought admission here.

Interdisciplinary efforts in both instruction and research should be considerably expanded in con-

nection with several of our currently developing programs, among them earth resources, engineering geology, geochemistry, geohydrology, and earthquake studies. Work in these and other fields should be coordinated with broader University efforts in programs of urban development (beginning right here at home in the San Francisco Bay area), planning for resource development and environmental control in the United States and other countries, and conservation projects of many kinds. . . .

[We should consider] organization of informal sessions, perhaps at lunch time, of mixed groups of students, undergraduate and graduate, from various schools for discussion of any topic of current interest. Such interchanges of view might be more productive and rewarding than the relatively one-way transmission that characterizes many campus speeches, lectures, and panel discussions. They might even serve as a vehicle for convincing many students that activism and education are quite compatible. . . .

Translation of any of the foregoing suggestions into improved academic operations must depend primarily upon the interest and will of individuals among the student body and faculty. I am confident that much can be accomplished with minimal increases in budget support, as already demonstrated, for example, by the highly successful Freshman Seminar program. Yet the interest and will of continuing participants ultimately must be limited by resources that only dollars can provide, and we should be careful never to reach this dangerous ultimate. Available personnel and facilities always should be sufficient to provide a favorable emotional operating ratio–that currently delicate relationship between eagerness to do something extra and worthwhile, on the one hand, and discouragement begat of overcrowded schedules, restricted space, inadequate equipment, and insufficient secretarial and technical assistance, on the other.

Medicine, Dr. LeRoy A. Pesch – 4/15/67

It is apparent from these considerations that the combination of what we now call pre-clinical and pre-medical education might well be combined and hence diffused throughout the University. This would require that the interface between the University and the medical school be open. Likewise the contribution the medical school might make to undergraduate and graduate programs in other divisions of the University could be very great. . . .

The Committee on Medical Education looks with favor on students coming from interdisciplinary programs to the medical school as students; this is no change in policy from the past, and the school would be interested in participating in such programs in accordance with individual interests and competence of the faculty. The medical school presently gives a course, "Man as Organism" (Lederberg). Among the subjects in which the medical school could be involved with the University are population studies, public health problems, participation in senior colloquia, and health education courses. Areas that might possibly be opened to the undergraduate would be community health, human biology, certain courses in the departments of psychiatry, genetics, biochemistry, physical aspects of child development, and advances in medicine, which is presently attended by undergraduate students.

Appendix 2

Summary of Results of a Questionnaire Survey of Recent Alumni

Introduction

In early April of 1967, five graduated classes of Stanford ('66, '64, '63, '62, '57) were polled on their academic and vocational activities since graduation. Sent to all members of the respective classes, the questionnaire responses included data on the name of the graduate or professional school, degree sought or completed, intention of returning to or beginning graduate work, principal activities other than graduate or professional school, such as the military, Peace Corps, foreseen in activity in the future (ten years), and marital status.

Purpose

The purpose of the study was defined in the accompanying letter sent to each graduate: "In order to assess and improve Stanford education, the Study must be concerned with the activities of Stanford graduates since their departure from the University. Only with good data on what becomes of our students can we be confident that undergraduate programs are being modified in a way that is relevant to individual needs."

Results

Data from three classes ('57, '62, '66) on graduate study (Table I), degrees sought or completed (Table II), field of study (Table III), and occupations (Table IV) are reported here. The data are differentiated by sex and are given in percentage figures.

Return percentages from each of the three classes were as follows: 1957, 710 (56 percent); 1962, 753 (60 percent); 1966, 710 (55 percent). A random sample of non-respondents was selected (50 each from classes of '57 and '62) in order to ascertain if there were significant differences between the graduate school attendance and plans of respondents and non-respondents. These persons received a second letter and duplicate questionnaire. Returns of this second sample were over 80 percent. Reported graduate school attendance or plans for the non-respondent sample fell within .5 percent of the respondent group for each of the classes. We conclude therefore that there is no significant difference between the respondents and non-respondents to the initial questionnaire on this data item. That is, it is highly likely that the percentage figures for graduate school attendance and plans, based on the return of the first questionnaire, are representative for the entire class.

Table I Graduate and Professional Study

The data are represented in six categories of graduate or professional school activities. The final line (total) gives the total percentage of those who have completed, are pursuing, or plan to begin graduate or professional studies. Percentage figures are given by males, females, and all.

	1957			1962			1966		
	male %	female %	all %	male %	female %	all %	male %	female %	all %
No plans	18	32	23	10	28	16	5	13	8
Plans to	4	10	6	8	7	7	18	27	22
Is doing	9	4	7	23	6	18	66	32	54
Has completed	61	39	53	49	41	46	7	23	12
Has done, plans more	8	14	10	10	18	13	3	4	3
Undecided	0	0	0	0	0	0	1	1	1
Total with graduate plans	82%	68%	77%	90%	72%	84%	94%	86%	91%

Table II Degrees Sought

Responses in this category were coded according to the highest degree pursued. Thus, if a subject had completed a Master's degree and was pursuing a doctorate, he was coded "Done, plans more" in Table I and "PhD" in Table II.

	1957			1962			1966		
	male %	female %	all %	male %	female %	all %	male %	female %	all %
No degree	18	33	23	10	28	16	5	13	8
Credential	0	10	4	0	12	4	1	7	3
Master's	15	38	23	19	37	26	19	51	28
MBA	16	1	10	14	1	9	15	2	11
MFA	0	1	1	0	0	0	0	0	0
LLB	14	1	9	17	3	12	20	2	14
MD	8	1	6	11	3	8	10	4	8
PhD	16	5	12	22	9	18	23	15	21
Other	7	3	6	5	1	4	3	3	3
Not specified	6	6	6	2	6	3	4	3	4
Not reported	0	1	0	0	0	0	0	0	0

Table III Field of Study

The data here are given for those persons who have completed, are pursuing, or plan to begin graduate or professional work. Those not so engaged are not included. Therefore, for example, it should be read that 23 percent of that portion of the class of 1957 *which has pursued or will pursue post-graduate work* are in the field of business, and not that 23 percent of the class of 1957 has pursued or will pursue post-graduate work in business.

	1957			1962			1966		
	male %	female %	all %	male %	female %	all %	male %	female %	all %
Business	27	6	23	19	1	19	18	5	17
Education	5	46	17	2	42	16	3	27	10
Engineering	13	1	9	14	0	9	14	0	9
Law	17	1	12	21	3	15	21	2	16
Medical Science	11	4	9	12	14	13	11	9	10
Arts	2	6	3	3	5	3	6	8	6
Behavioral Science	2	12	5	4	8	6	6	7	6
Biological Sciences	1	3	1	2	4	2	2	5	3
Chemistry	1	0	1	1	0	1	1	0	1
Earth Sciences	4	0	3	3	0	2	1	1	1
English	1	3	1	2	4	3	3	8	4
History	2	3	3	2	1	2	4	10	6
Languages	1	1	1	1	7	2	1	5	2
Mathematics	1	3	1	2	1	2	1	3	2
Philosophy	0	1	1	1	1	1	2	1	2
Physics	4	0	4	4	3	3	3	0	2
Political Science	2	3	3	2	1	2	6	1	4
Theology	2	0	1	2	0	1	1	1	1
Other	4	7	5	3	5	3	3	6	3

Table IV Actual or Intended Occupations

The following figures represent percentages of the total return. The occupational categories used are explained below.

	1957			1962			1966		
	male %	female %	all %	male %	female %	all %	male %	female %	all %
Higher academic	15	5	12	19	6	14	21	20	22
Law	12	1	8	15	1	10	16	1	12
Medicine	8	2	6	11	3	8	11	3	8
Other traditional	2	0	2	2	1	2	2	0	1
Creative	2	2	2	2	4	3	3	7	4
Technician	0	9	3	1	13	5	0	7	2
Other academic	5	26	14	5	39	17	7	30	14
Government	5	1	4	4	2	4	4	1	3
Women	0	47	16	0	25	9	0	16	5
Business	34	4	22	27	5	15	18	6	14
Engineering	16	1	10	13	0	8	6	1	4
Other	1	2	1	5	1	5	12	8	11

Categories

Higher Academic:	careers that are rooted in or are immediately related to recognized academic disciplines, anticipating work in research or in teaching in higher education. Any cases aspiring to the PhD degree are included.
Law:	practice with any graduate degrees in law.
Medicine:	practice or research with the MD or PhD degree in medicine.
Other traditional:	traditional profession other than medicine and law, such as architecture, dentistry, and the clergy.
Creative:	author, musician, painter, sculptor, etc.
Technician:	career with special training, such as computer programmer, laboratory assistant.
Other academic:	teaching or administration in institutions below the level of higher education.
Government:	military or civil service at the local, national, or international level.
Women:	traditional female occupation, such as housewife, clerical, or secretarial.
Business:	any of the occupations usually carried out in business organizations.
Engineering:	any of the fields within engineering.
Other:	all other occupations including "undecided."

Note: Alumni indicated *either* their actual *or* their intended occupation. Most of the responses of the class of 1966 and some of the class of 1962, therefore, were of *intended* occupations.

April 15, 1968 Richard Bale

Appendix 3

Summary of Correspondence from Faculty Members Who Recently Left or Came to Stanford

In addition to interviewing a sample of professors drawn from the entire faculty, The Study of Education at Stanford has sought the perceptions and insights of faculty members who have recently come to Stanford and those who have recently departed for other institutions. It was expected that these faculty members might draw some fresh and useful cross-institutional comparisons, and professors in the two categories were invited to submit comments. The respondents were asked to make comparisons between Stanford and other institutions with which they had been affiliated; to cite their reasons for coming to Stanford, or for leaving for another position; and, generally, to propose ways in which Stanford University might be improved.

Twenty-four professors responded to this invitation. About half were men who had come to Stanford within the past five years; the other half had left for other universities within the same period.

Comments by professors who have left Stanford

The men who have left Stanford University for other positions were virtually unanimous in praising the quality of students at Stanford and opportunities for research activities. Their reasons for leaving the University seem to fall into three categories. Several of the respondents left for attractive appointments, which would include promotion in rank and responsibility for the development of new academic programs. Two professors left in part because they perceived a departmental failure to encourage junior faculty members and felt that chances for promotion were remote:

> Another problem with Stanford at present is their treatment of younger faculty members. . . . Stanford is achieving a reputation as a place for assistant professors to spend several years and then leave. . . . People remember the fact that no assistant professor has been promoted in X Department for over ten years.

Three respondents mentioned finances as a reason for leaving Stanford, and two of these listed financial need as the compelling reason for accepting a more lucrative position at another university.

Few other criticisms of the University were offered. Four professors believed that undergraduate education was being slighted in the departments they had left at Stanford, and three had found the quarter system an awkward fragmentation of the academic year. These excerpts from the letters represent the range of comments:

> Stanford recently has been trying to grow in ways that could hurt its future. In its haste to expand, it has often emphasized graduate over undergraduate education, especially in the various science departments. . . . The major reason for these faults is that it does not pay for professors or instructors to get involved with undergraduates. It will never lead to any recognition by the leaders in the department. I am aware of the fact that one can go too far in this direction but that stage is a long way from Stanford's position in many departments.

> The most striking difference, as far as my own activities are concerned, is the very small class size at the graduate level here at Yale. My largest class contained six students. I had a research seminar that contained two students. This smallness gives me the feeling that I am now teaching individual human beings, each with his own strengths and interest.

> If I have any major criticism of the educational process at Stanford, it is that informal faculty-student contact is given mere lip service, and this kind of communication badly needs strengthening. The sort of house system envisaged by Will Stone for Stern Hall was never really given the sort of support that it needed either by the faculty or administration.

To put it most bluntly, the quarter system is incompatible with quality education. It places a premium upon superficiality, and it produces for most students a crazy-quilt collection of courses which has no rationale or integration.

Comments from new professors

Professors recently arrived at Stanford also expressed satisfaction with the quality of Stanford students and the opportunities and facilities for research. The comments of these respondents were on the whole less critical than those of the men who had left Stanford. No pattern emerged from the responses, but individual professors criticized a lack of contact between members of different departments, Stanford's tendency toward parochialism, the practice of granting academic credit for work not truly academic in nature, and the length of time required for action on faculty proposals. Some of the more critical responses are quoted here.

One respondent who criticized the University's failure to define goals concluded:
Have we defined what kind of man Stanford wants to turn out? I fear that until we do, Stanford's present selection and educational process tends to give us only bright young material that after four years is still so undecided as to what life is about that they end up choosing the Peace Corps so they can stall for two more years before making a decision on a permanent role in life.

Concern with teaching and educational leadership: On this score, I have been somewhat disappointed in Stanford. At the undergraduate level, it is my impression that most of the faculty aren't very much interested in the students. . . . On the educational process, there are clearly some groups in the University doing fine work. But my impression is that Stanford is more inclined than I think a first-rate university ought to be to accept what it has been doing in the past as very good.

I have been struck at Stanford with what seems to me to be . . . a too casual, even careless, distribution of academic credit. I wonder if we are not giving university credit too often, too easily, for work done under fundamentally incompetent supervision.

Indeed, Stanford does at times seem too high-powered–with too much pressure. The push for excellence is praiseworthy but the prices for such push do show. Students (undergraduates) do get neglected by a faculty preoccupied with research and publishing–not seriously neglected but left a bit lower in priorities than should be the case. Advising and other university duties do seem pushed aside or played down. Everyone is just a little bit too busy.

August 14, 1968 Robert N. Funk

Appendix 4

Goals of the University

In this period of general and frequently acerbic criticism of social institutions, colleges and universities have provided the focus for a considerable part of our country's social conflict. Perhaps this occurs because each campus provides a sort of microcosm of the larger society and is well known, if not always well understood, in the surrounding community. Certainly it results in part from the volatile nature of the university society, in which unusual intellectual and physical energies stimulate and abrade one another. Universities have also become more central and visible in our country as the American people have come to value higher scholarship and research for their efficacy in furthering technology (which seems to have become not only the method but also the ethos of our culture), and, on a somewhat more idealistic level, for the promise higher education holds as a source of cures for social maladies.

Colleges and universities have been criticized from points of view so diverse that a modern de Tocqueville would be hard put to identify one critic's description as being of the same university excoriated by the next speaker. Students and restive faculty members tend to perceive the university as a sort of institutional matron, rather late in years and overfed, trussed in here and padded out there by the strictures or excesses of tradition and bureaucracy, careful in the minutest detail of her public visage, unwilling to indulge in any conversation, gesture, or nuance of behavior she learned later than 1900. Morning newspapers and alumni, on the other hand, frequently characterize the university as a wanton of the most indifferent character, who seduces the youth of the country to strange and unhealthy practices and heedlessly sows disorders in a hitherto orderly society.

However the critics have perceived their university, they have commonly agreed upon one of two criticisms: they have found the academic community remiss either in failing to refashion its goals in a form likely to have meaning in contemporary society ("meaningful" has become a despised bromide on university campuses, but at the same time it is almost impossible to converse without using the word), or in having neglected to define institutional goals in the first place. Some students of academic history have also sadly noted the modern university's departure from a model of excellence and freedom supposedly attained by universities in the Middle Ages–a criticism which often betrays the critic's faulty apprehension of life in the medieval universities.

In response to these criticisms, and despite the protean nature of universities and of institutional goals, the Study of Education at Stanford has undertaken an examination of the goals of Stanford University as a basis for its recommendations.

The University was founded in an era in which, like this one, the academic groves were prowled by dark behemoth questions: Darwinism and social Darwinism, the confrontation between science and tradition, and the disequilibrium caused by the runaway development of an industrial and technological culture. We have reason to believe that the founders of the University were not unduly troubled by doubts where social and philosophical issues were concerned, however, and the statement of goals written into the founding grant is optimistic but lacking in definitions:

> Its [the University's] nature, that of a university with such seminaries of learning as shall make it of the highest grade, including mechanical institutes, museums, galleries of art, laboratories, and conservatories, together with all things necessary for the study of agriculture in all its branches, and for mechanical training, and the studies and exercises directed to the cultivation and enlargement of the mind;
>
> Its object, to qualify its students for personal success, and direct usefulness in life;
>
> And its purposes, to promote the public welfare by exercising an influence in behalf of humanity and civilization, teaching the blessings of liberty regulated by law, and inculcating love and reverence

> for the great principles of government as derived from the inalienable rights of man to life, liberty, and the pursuit of happiness.

Anyone tracing the development of Stanford University will find that without much deviation from either the word or the spirit of the founding grant, the University has been able to develop a great Medusa's mane of goals, some competing savagely, some contradicting one another curiously, some seeming to have been grafted onto the organism adventitiously and without rationale. Each of these goals has something to do, however, with "the inalienable rights of man to life, liberty, and the pursuit of happiness."

The Study of Education at Stanford's predecessor study (the Stanford Study of Undergraduate Education, 1954–1956) attempted to generate some more particular goals for undergraduate education which would have reasonably clear structural and functional implications for the University. The goals identified by that study were, in brief "to achieve breadth of knowledge–knowledge of the elements of our cultural heritage;" "to achieve depth of knowledge–such depth of knowledge will serve different purposes for different individuals;" "to develop one's interests and abilities and clarify one's values." The section on goals ended with the statement:

> Stanford seeks to prepare young men and young women for satisfying and useful lives, especially for responsible leadership in their communities, in business, government, the professions, whatever their life work may be.

These statements provided an appropriate foundation for the resulting general studies program, but they fell short of offering a schema which would give Stanford a direction in which to progress and a means of solving day-to-day conflicts and problems.

Conceding that the University's existing documents and its history do not sufficiently articulate Stanford's goals, the present Study of Education has undertaken a survey of approximately 70 Stanford professors, each of whom was asked to set out his ideas about the purposes of the University. Although the professors' papers revealed an interesting diversity of backgrounds and intellectual styles, when pared to their essentials they also produced a virtual unanimity in enumerating the goals of the University. The professors proposed a hierarchy of goals for Stanford:

First, the pursuit of truth and knowledge.

Second, the liberal education of students.

Third, the professional education of students.

This hierarchy involves some abstractions higher than those expressed in the founding grant, but the definitions of "truth," "liberal education," and even "professional education" always have been and are increasingly subjects of controversy, and as goals they suggest almost nothing of the shape the University should take or the criteria the community should employ in resolving its problems.

Without working at this Chinese puzzle further, it seems evident that Stanford and other comparable universities have undertaken so many enterprises and assembled so many personalities and interests that the construction of any coherent philosophy or statement of goals is extraordinarily difficult, if not impossible, unless formulated at the high level of abstraction suggested by the papers of the 45 professors who responded. Perhaps there are still professional or vocational schools which can state their closely limited goals with some assurance and effect, and colleges founded by religious orders may yet be able to employ religious philosophy and doctrine to resolve everyday problems. We have evidence that even these institutions find their stated goals and philosophies unequal to the pressures which presently bear upon higher education.

The difficulty in defining goals does not mean the problem should be abandoned as one admitting no solution. There may have been a time in America when resources were so plentiful and social institutions so largely undefined that almost any sort of college might exist, with or without philosophical or pragmatic rationale. Today, however, the needs of society are perceived as being infinitely

complex and expensive, and the resources necessary for higher education can be obtained only with difficulty and after the most careful and persuasive argument to the institution's constituents.

If the goals of a university are not determined with some particularity, the institution cannot present a cogent argument that the construction of a new chemistry building is necessary to the furtherance of the university's goals and merits the support of alumni and friends. Likewise, unless goals are stated with clarity the university will have difficulty explaining to persons *extra muros* the policies governing political speakers on campus, the latitude of activity afforded student organizations, and the degrees of freedom of speech enjoyed by faculty members and the student newspaper. Looking inward, without some definition of goals the faculty cannot develop an intelligent rationale for offering one course rather than another, and as has been vividly demonstrated on campuses across the nation this past year, the community cannot establish a viable relationship amongst students, professors, and administrators.

The statements of goals cited in the foregoing arise from the best of intentions, but in sum they imply that all goals which might commonly be associated with a university are good. Unless decisions are made that some goals are better than others, however, the university has no mechanism for making choices among alternatives, and nothing prevents an inferior program from taking precedence over a good one.

A faculty member who came to Stanford from a position with an industry has commented on this problem:

> In industry I was accustomed to making, and using, operating plans for one day, one month, and one year, and revising them in the light of changes in objectives and past accomplishments. Believe it or not, we had a corporate creed, and we had objectives, and they were a part of our planning.
>
> At Stanford I have found it quite different. At first I was amused at the naivete exhibited by mature faculty in their lack of organization and planning, whether on departmental or school-wide levels, or university committees, or the administration itself. We at Stanford seem to avoid thinking about problems by calling upon revered cliches as 'academic freedom,' 'research,' 'relevance,' 'involvement,' 'commitment,' 'concern,'–all of which are very unimportant to the matter at hand. But now it is no longer amusing to find that we are always reacting to situations and coming up with expedient solutions.

Although The Study of Education at Stanford has included on its agenda an examination of the goals of the University, the Steering Committee has not hoped to devise a concise statement of goals which would indicate how each future decision should be made and the direction in which each problem should be resolved. No other university has constructed such a statement, and as our community becomes more complex a "statement of purpose" necessarily becomes more convoluted.

If this study has succeeded in identifying any code or ethos for Stanford, it is that academic freedom–the freedom to discover, teach, and learn–takes precedence over nearly every other right and prerogative in the University. This assertion, simple as it is, may provide a reference whereby we may adjudicate future differences and make hard choices.

August 13, 1968 Robert N. Funk

Appendix 5

Proposal for an Academic Planning Office at Stanford

We propose that the spirit and central focus of the Study of Education at Stanford be supported by a new office to be called the Academic Planning Office. We assume that the entire scope of SES will not need to be encompassed by the new office; although it might someday be appropriate for the Academic Planning Office (APO) to concern itself with areas such as the extracurriculum or the campus environment, its principal focus is stated in its name–academic planning. Its scope should remain broad, including students, faculty, courses, and facilities as they relate to the academic goals of the University.

Functions

The functions to be performed within the area of academic planning can be described under three headings: 1) collection of information, 2) analysis, and 3) interpretation and dissemination of results.

SES experience suggests that collecting information will be the most important and most difficult initial task. In the course of conducting research for the Study we became painfully aware of the difficulties that result when basic data about the University and its operations are not collected and analyzed on a routine basis. Simple-sounding questions like "What shifts have there been in student majors over the past ten years?" or "What proportion of our entering freshmen exhibit proficiency in a foreign language?" are answered only after laborious investigation. Only when this kind of data collection is routine does it become possible to address ourselves to complicated and subtle questions of academic policy. The collection and storage of such data should not be a direct function of the APO–the Administrative Data Processing Unit already does so, serving a number of other agencies, and is well equipped for this task–but the office must be involved in deciding *what* should be routinely collected and *how* it should be collected and stored. In both collecting and analyzing data the APO needs to possess, or to be able to call regularly upon, a variety of skills including computer programming, statistical sampling techniques, survey research, and the like.

It can be anticipated that, even within the realm of academic planning, not all relevant data will be collected by the APO. (Similarly, SES has received considerable assistance from offices such as the Dean of Students, the Registrar, and Administrative Data Processing in collecting data.) Whenever possible, the APO should encourage and fully utilize such outside assistance and act only as a clearing-house for University data collection in the academic area or as a consultant for the office, committee, or individuals responsible for collecting the data.

Data analysis, like collection, may or may not be routine. It is probably fair to say that there is currently no routine data analysis in the academic area. Routine reports list statistics on students, faculty, courses, and departments, but no attempt is made to *use* the statistics to answer any questions about University operations. SES has made such attempts, including a fifteen-year study of enrollment and teaching trends, cost analysis of various programs, a study of the effects of hypothetical changes in admissions policies, and a detailed study of the course experience of graduating seniors. It can recommend that certain analyses of these kinds be performed routinely. The APO should be responsible for carrying out such recommendations and be alert to the possibility of others, but it should not itself be involved in the actual production of routine reports.

Non-routine analysis should be done by the APO staff utilizing, when appropriate, the advice of outside consultants. Evaluation of innovations–in curricula, recruiting of applicants, tutorial programs for minority-group students, or whatever–would be a major type of non-routine analysis.

We think that objective analysis and reporting of findings are not, by themselves, sufficient to justify the existence of the APO. The staff should also be responsible for interpreting findings and making

recommendations. The dissemination of project reports will, of course, depend upon the nature of the project and the origin of the proposal. With the aid of the Provost's Office, general guidelines will have to be established for the distribution of project reports and their accompanying interpretations and recommendations.

External requests for information about the University should be channeled through the APO if the content falls within its area of competence. Those questions that ask for basic data should be referred to the Administrative Data Processing unit; other questions should be answered by APO staff if it seems worthwhile to do so.

Structure

The APO must not function as an isolated group of professional researchers whose work is not geared to the demands of the community it serves. The greatest care must be taken to see that this fate, which has been the bane of "institutional research," does not befall the office whose creation we are proposing. To that end, we recommend that the APO be established as a unit of the Provost's Office and that the Director of the Academic Planning Office have direct access to the President and the Provost. There must also be a close, working relationship between the office and a standing committee of the Academic Senate concerned with the processes of self-scrutiny and self-renewal that the office is intended to serve.

Operation

The APO should conduct research at the request of the Provost, school deans and departmental chairmen, other university officers, the faculty senate and faculty committees, individual faculty members, and student organizations and committees. It should also initiate projects within the office, from statistical analyses to the design of experimental academic programs. Research priorities should be established by the director in consultation with the Provost.

Internal Organization

One member of the APO, probably the director, should serve as liaison with those groups listed above who may propose research projects. This person should not only channel ideas and proposals, but also be familiar with research activities in those parts of the University from which consulting services might be obtained. There should be a director, an assistant director, a research assistant, and a secretary. The research assistant post might be divided into two half-time positions for graduate students interested in institutional research. The APO staff should also include a well-qualified computer programmer on a full- or part-time basis.

The APO would consult extensively with members of the Stanford faculty and staff who have special expertise in problem areas under study. A budget for external consultants might ultimately prove desirable.

The Relation to SES

Stanford should diligently exploit the fact that the establishment of an Academic Planning Office will be preceded by a two-year self-study of considerable scope and depth. The potential advantage of this is obvious: the Study of Education at Stanford can, and should, identify those questions that need to be continuously raised and answered, and also specify the kinds of information that must be available in order to arrive at the answers. The Steering Committee and topic committees have a further task: recommendations should be accompanied not only by statements identifying the problems and arguments for the proposed solutions, but should also–insofar as possible–specify *how* the solutions can

be expected to affect the problems. For all recommendations, the question should be answered, "If the recommended solution is implemented, how will one know if the desired effect occurs?" It is often extremely difficult and occasionally impossible to identify such indicators; if the attempt is not made, however, those responsible for carrying on the work of SES may be unable to evaluate appropriately the adopted recommendations. That would be a most inauspicious ending for SES and beginning for the Academic Planning Office.

October 4, 1968

Sally Main
Robert Hind